Town of Smyrna, Delaware

WATER WORKS

The official newsletter of the Department of Public Works – Water Division

Summer 2014

2013 Water Quality Report

This issue of *Water Works* reports the results of the 2013 testing of the Town of Smyrna's municipal drinking water system. You can read all about those tests beginning on page 3.

Smyrna Water Department

PWS ID# DE000657

Bill Evans
Director of Public Works

Mark Gede
Water Systems Manager

Juan Martinez
Water/Sewer Operator

Bill Proud
Water/Sewer Operator

We are pleased to present to you our 2013 Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Did You Know?

Our water source is groundwater.
Our wells draw from the Columbia Aquifer.

The Town of Smyrna aims to provide superior service while delivering a reliable, high quality drinking water supply to our residential and industrial customers. The town works very hard to safeguard its water supplies, and once again we are proud to report that our system has met and/or exceeded water quality standards.

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.

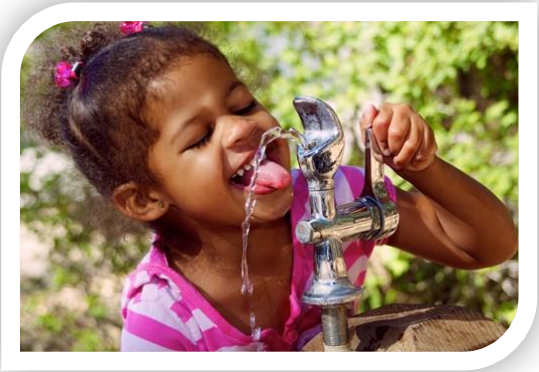
Should you have questions about your water utility, please contact us at (302) 653-9288.

What's Inside…

Protecting Our Water Supply

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to assure tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) sets regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations established limits for contaminants in bottled water, which must provide the same protection for public health.



All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Contamination requires treatment, which increases the cost to deliver water to your tap. Here are ways that you can help protect our watershed:

- Eliminate excess use of lawn and garden fertilizers and pesticides.
- Pick up after your pets.
- Dispose of unused pharmaceuticals at the Smyrna Police Department's Annual Prescription Drug Take-Back Day. Medications should never be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals, and paints at a Household Hazardous Waste Drop-off Event. Find an event at: www.dswa.com.
- Volunteer in your community. Organizations like the Delaware Nature Society work to protect our local waterways. Visit www.delawarenaturesociety.org to find a waterway clean-up event.
- Participate in public meetings and forums. It allows decision-makers to hear your perspective and you to be involved in protecting your water supply. All water customers are welcome to attend Town Council meetings to learn more about their water utility. Meetings are held on the 1st and 3rd Mondays of each month at 7:00pm.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operation, and wildlife.
- Inorganic contaminants, such as salts and metals can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources, such as agricultural, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Water Quality Test Results
Calendar Year 2013

The Delaware Division of Public Health - Office of Drinking Water routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2013. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants						
Beta/photon emitters	N	5.3 1.8-5.3 (2008)	mrem/yr	0	4	Decay of natural and man-made deposits
Alpha emitters	N	2 0.06 – 2 (2010)	pCi/L	0	15	Erosion of natural deposits
Combined radium	N	1.38 (2010)	pCi/L	0	5	Erosion of natural deposits
Inorganic Contaminants						
Barium	N	0.0485	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine	N	1 0.9-1	ppm	4	4	Water additive used to control microbes
Chromium	N	1.2	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper	N	0.613 1 Sample above AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	N	1.82 0.47-1.82	ppm	0.8-1.2	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	N	4 2 Samples above AL	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese	N	37.4	ppb	50	50	Naturally-occurring element that can be found ubiquitously in the air, soil, and water
Nitrate (as Nitrogen)	N	5.4 0-5.4	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Water Quality Test Results
Continued

Synthetic Organic Contaminants Including Pesticides and Herbicides						
Alachlor	N	0.036 0-0.036	ppb	0	2	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate	N	0.79 (2010)	ppb	0	6	Discharge from rubber and chemical factories
Heptachlor epoxide	N	9.7 0-9.7	nanograms/1	0	200	Breakdown of heptachlor
Volatile Organic Contaminants						
TTHM3 [Total trihalomethanes]	N	14.47 (2011)	ppb	0	80	By-product of drinking water chlorination
Xylenes	N	0.00079 (2011)	ppm	10	10	Discharge from petroleum factories; discharge from chemical factories
Total Haloacetic Acids (HAA5)	N	2.2 (2011)	ppb	60	60	
Unregulated Inorganic Contaminants						
Iron (Fe)	N	0.38 0-1.13	ppm	0	0.3	
Sodium (Na)	N	14.13 11.9-18.1	ppm	0		
Alkalinity (Alk)	N	12.9 7.9-16.2	ppm			
pH	N	6.92 5.7-8.3	ppm		6.5 – 8.5	
Chloride (Cl)	N	23.97 18.6-31.7	ppm		250	
Total Dissolved Solids (TDS)	N	95.3 (2012) 82-108	ppm		500	

** All other contaminants were in compliance with the Safe Drinking Water Act.*

Terms & Abbreviations

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND): laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l): one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter: one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L): picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr): measure of radiation absorbed by the body.

Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL): The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The "Goal"(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

The Department of Natural Resources and Environmental Control in conjunction with the Division of Public Health has conducted a source water assessment. You may review this at http://delawaresourcewater.org/assessments. It provides information such as potential sources of contamination. Overall, Smyrna's water has a very high susceptibility to nutrients, a high susceptibility to pathogens, a very high susceptibility to petroleum hydrocarbons, a very high susceptibility to pesticides, a moderate susceptibility to PCBs, a very high susceptibility to other organic compounds, exceeds drinking water standards for metals and, a moderate susceptibility to other inorganic compounds.

A Word About Lead and Nitrates

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Smyrna Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline: 1-800-426-4791 or at www.epa.gov/safewater/lead.

5 Steps you can take to reduce exposure to lead in drinking water:

- Run your water to flush out lead: If water has not been used for several hours, run water for at least 30 seconds or until it becomes cold or reaches a steady temperature before using it for drinking or cooking.
- Use cold water for cooking and preparing baby formula: Lead from the plumbing dissolves more easily into hot water.
- Do not boil water to remove lead: Boiling water will not reduce lead.
- Remove debris from plumbing materials: Remove the faucet strainers from all taps and run the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.
- Identify and replace lead solder: Lead solder (which was commonly used to join copper pipes prior to 1988) appears dull gray and when scratched with a key becomes shiny. A licensed plumber should be able to help with lead solder identification and replacement (if applicable).

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.